

## Abstracts

367

cance for reduction in antibiotic fills. The provider survey showed statistically significant self-reported differences between the intervention and control clinic providers in the hypothesized direction for all three outcome measures. Significant differences in outcomes were seen by provider type (family practice, urgent care, or pediatrician). **CONCLUSIONS:** Analyses of claims data showed a reduction in the diagnosis of AOM and increased fills of analgesic drops for pain, as hypothesized. Improvement was more marked in the self-reports than in the claims data. Outcome differences were mediated by provider specialty.

### PROCESS EVALUATION OF THE IMPLEMENTATION OF OTITIS MEDIA GUIDELINES IN AN INTEGRATED DELIVERY SYSTEM

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**OBJECTIVES:** Numerous studies have evaluated the impact of various guideline implementation interventions and have found different results for seemingly similar interventions. To investigate this issue, we conducted a process evaluation of a multi-faceted otitis media guideline intervention that examined intervention details, degree of provider exposure, and provider perceptions. **METHODS:** Ten primary care clinics in a south-western integrated delivery system were organized into matched pairs and assigned to control status (mailed guidelines only) or intervention status (provider exposure to formal education, guideline tools, reinforcement messages, and feedback). Researchers documented the nature and timing of the multiple interventions, degree of intervention exposure (training attendance by intervention clinic providers, provider self-report of intervention exposure), and experience of providers (provider ranking of each intervention's value). **RESULTS:** Training attendance varied significantly across intervention clinics and by specialty, with family practitioners having higher attendance (64%) than urgent care providers (57%) or pediatricians (47%). Providers attending the formal training were more guideline-compliant pre-intervention than those who did not attend. Of the ten interventions, two-thirds or more of the providers recalled having seen or participated in: the guidelines, the formal training, the repair of otoscopes, the laminated guideline summary card, and the office poster. The interventions ranked as highest in value were: repair of the otoscopes, the formal training, and the guidelines. **CONCLUSIONS:** The different pre-intervention practice patterns found for providers who attended the training vs. those who did not suggests the importance of adjusting for this factor in analyzing intervention impact on guideline compliance. The most concrete and basic intervention—repair of the otoscopes—was best remembered and most valued by the providers, perhaps because it is central to the accurate diagnosis of otitis. The latter further suggests the importance of a needs assessment to tailor the specific interventions to the particular practice setting.

### EYE

### COMORBIDITIES AND INCIDENCE RATE OF GLAUCOMA IN THE CALIFORNIA MEDICAID POPULATION—A CASE-CONTROL STUDY

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### PER2

**OBJECTIVES:** To investigate comorbidities associated with glaucoma and trend of glaucoma incidence in the California Medicaid population. **METHODS:** A retrospective case-control study was conducted using 20% sample of the Medi-Cal administrative claims data from January 1, 1995 to December 31, 2002. Patients with glaucoma were identified using ICD-9 diagnosis (ICD-9 = 365.xx) and were 1:3 randomly matched to a cohort without glaucoma based on age and gender. Eligibility was measured by the number of enrollment months. Relative risk (RR) was calculated to estimate the risk of glaucoma patients to a profile of 25 comorbidities set forth by AHRQ. **RESULTS:** A total of 32,395 glaucoma patients were matched to 97,185 controls. The mean age was 65.5 (+/-19.8) and 34.9% were male. Over the eight years of study period, glaucoma patients had significantly longer length of Medi-Cal eligibility than non-glaucoma patients (71.6 vs. 50.8 months,  $p < 0.0001$ ). African Americans were at significantly higher risk of glaucoma (RR = 1.53) and Hispanics had lower risk (RR = 0.74). Patients with glaucoma were at significantly higher risk for most diseases, such as rheumatoid arthritis (RR = 1.49), hypothyroidism (RR = 1.39), diabetes (RR = 1.35), valvular diseases (RR = 1.35), depression (RR = 1.32) and peripheral vascular diseases (RR = 1.26). The yearly incidence rate for glaucoma decreased over time from 48.5 per 10,000 person-year in 1995 to 18.6 per 10,000 person-year in 2002. The average incidence rate for glaucoma patients was 29.0 per 10,000 person-year during the eight-year study duration. **CONCLUSIONS:** The glaucoma population suffers from numerous comorbidities, although it is not clear whether they affect treatment alternatives. The incidence rate of glaucoma sharply declined from 1995 to 2002 in Medi-Cal population.

### PEY2

### CHARACTERIZATION OF THE FREQUENCY AND REASONS FOR CHANGES IN PHARMACOTHERAPY IN THE TREATMENT OF PRIMARY OPEN-ANGLE GLAUCOMA, NORMAL TENSION GLAUCOMA, AND OCULAR HYPERTENSION USING RETROSPECTIVE ANALYSIS OF THE GLASGOW ROYAL INFIRMARY GLAUCOMA DATABASE

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**OBJECTIVES:** The objective of this study was to determine the frequency and describe the reasons for changes in pharmacotherapy in the treatment of primary open-angle glaucoma (POAG), normal tension glaucoma (NTG), and ocular hypertension (OH). **METHODS:** Retrospective analysis was conducted of the Glasgow Royal Infirmary Glaucoma Database. The database was comprised of computerized medical records of all POAG, NTG, and OH patients treated at the Glasgow Royal Infirmary from 1981 to present, representing 745 patients or >5000 treatment years. Data elements recorded for each patient included demographics, diagnosis, and treatment history. Treatment history included initial and subsequent medication regimens. Changes in medication regimens were categorized by failure to reach or maintain target pressure, adverse effects, disc and visual field progression, compliance, surgery or surgical failure, and other reasons. Descriptive statistics were used to analyze patient demographics and distributions by study variables. **RESULTS:** Among the 745 patients, there were 2049 changes in treatment during the study period. Frequency of treatment changes were failure to reach target pressure (29%), failure to maintain target pressure (17%), adverse effects (20%), surgery (11%), failure of surgery (5%), disc progression (5%), visual field progression (5%), compliance (3%), and other

### PEY1